

CLAIMS

What is claimed is:

- 1 1. A method of improving the receive performance of a network adapter, the
2 method comprising:
3 monitoring an incoming network traffic load; and
4 dynamically tuning an interrupt delay in response to the incoming network traffic
5 load, wherein dynamically tuning the interrupt delay includes increasing the interrupt delay in
6 response to an increase in the incoming network traffic load, and decreasing the interrupt delay
7 in response to a decrease in the incoming network traffic load.
- 8 2. The method of claim 1, wherein dynamically tuning the interrupt delay
9 includes comparing the incoming network traffic load with an upper threshold, and wherein the
10 incoming network traffic load is greater than the upper threshold, increasing the interrupt delay.
- 11 3. The method of claim 1, wherein dynamically tuning the interrupt delay
12 includes comparing the incoming network traffic load with a lower threshold, and wherein the
13 incoming network traffic load is less than the lower threshold, decreasing the interrupt delay.
- 14 4. The method of claim 1, wherein monitoring the incoming network traffic
15 load includes calculating a number of packets received per interrupt.
- 16 5. The method of claim 1, wherein monitoring the incoming network traffic
17 load includes using a statistical counter to periodically examine a network controller.
- 18 6. The method of claim 1, wherein the interrupt delay may be dynamically
19 tuned within the range of from about 0 milliseconds to about 128 milliseconds.
- 20 7. The method of claim 1, wherein increasing the interrupt delay corresponds
21 to an increase of from about 3 milliseconds to about 5 milliseconds.

8. The method of claim 1, wherein decreasing the interrupt delay corresponds to a decrease of from about 1 millisecond to about 3 milliseconds.

9. A method of improving the receive performance of a network adapter, the method comprising:

monitoring an incoming network traffic load; and

dynamically tuning an interrupt delay in response to the incoming network traffic load, wherein dynamically tuning the interrupt delay includes increasing the interrupt delay when the incoming network traffic load is greater than an upper threshold, and decreasing the interrupt delay when the incoming network traffic load is less than a lower threshold.

10. The method of claim 9, wherein, when the interrupt delay is increased, the upper threshold is increased and the lower threshold is increased, and when the interrupt delay is decreased, the upper threshold is decreased and the lower threshold is decreased.

11. The method of claim 10, wherein the upper threshold and the lower threshold are increased or decreased by an equal amount.

12. The method of claim 10, wherein the upper threshold and the lower threshold are increased or decreased by different amounts.

13. An article of manufacture, comprising:

a machine-readable medium that provides instructions which, when executed by a machine, cause the machine to perform operations, the operations comprising:

monitoring an incoming network traffic load; and

dynamically tuning an interrupt delay in response to the incoming network traffic load, wherein dynamically tuning the interrupt delay includes increasing the interrupt delay in

1 response to an increase in the incoming network traffic load, and decreasing the interrupt delay
2 in response to a decrease in the incoming network traffic load.

3 14. The article of manufacture of claim 13, wherein dynamically tuning the
4 interrupt delay includes comparing the incoming network traffic load with an upper threshold,
5 and wherein the incoming network traffic load is greater than the upper threshold, increasing the
6 interrupt delay.

7 15. The article of manufacture of claim 13, wherein dynamically tuning the
8 interrupt delay includes comparing the incoming network traffic load with a lower threshold, and
9 wherein the incoming network traffic load is less than the lower threshold, decreasing the
10 interrupt delay.

11 16. The article of manufacture of claim 13, wherein monitoring the incoming
12 network traffic load includes calculating a number of packets received per interrupt.

13 17. The article of manufacture of claim 13, wherein monitoring the incoming
14 network traffic load includes using a statistical counter to periodically examine a network
15 controller.

16 18. The article of manufacture of claim 13, wherein the interrupt delay may be
17 dynamically tuned within the range of from about 0 milliseconds to about 128 milliseconds.

18 19. The article of manufacture of claim 13, wherein increasing the interrupt
19 delay corresponds to an increase of from about 3 milliseconds to about 5 milliseconds.

20 20. The article of manufacture of claim 13, wherein decreasing the interrupt
21 delay corresponds to a decrease of from about 1 millisecond to about 3 milliseconds.

22 21. A computer system, comprising:

23 a processor;

1 a network adapter capable of being interconnected with the processor, and capable
2 of being connected to a network, the network adapter including a network controller; and
3 a device driver capable of being executed by the processor; and wherein the
4 device driver comprises instructions which, when executed by the processor, cause the computer
5 system to perform operations, the operations comprising:

6 monitoring an incoming network traffic load from the network; and
7 dynamically tuning an interrupt delay that precedes an interrupt generated by the
8 network controller in response to the incoming network traffic load, wherein dynamically tuning
9 the interrupt delay includes increasing the interrupt delay in response to an increase in the
10 incoming network traffic load, and decreasing the interrupt delay in response to a decrease in the
11 incoming network traffic load.

12 22. The computer system of claim 21, wherein dynamically tuning the
13 interrupt delay includes comparing the incoming network traffic load with an upper threshold,
14 and wherein the incoming network traffic load is greater than the upper threshold, increasing the
15 interrupt delay.

16 23. The computer system of claim 21, wherein dynamically tuning the
17 interrupt delay includes comparing the incoming network traffic load with a lower threshold, and
18 wherein the incoming network traffic load is less than the lower threshold, decreasing the
19 interrupt delay.

20 24. The computer system of claim 21, wherein monitoring the incoming
21 network traffic load includes calculating a number of packets received per interrupt.

22 25. A method of dynamically tuning a network adapter interrupt delay, the
23 method comprising:

1 generating a monitoring input, the monitoring input comprising a value
2 corresponding to an incoming network traffic load;
3 comparing the monitoring input with an upper threshold, and wherein the
4 monitoring input is greater than the upper threshold, increasing the network adapter interrupt
5 delay, and wherein the monitoring input is less than or equal to the upper threshold;
6 comparing the monitoring input with a lower threshold, and wherein the
7 monitoring input is less than the lower threshold, decreasing the network adapter interrupt delay.

8 26. The method of claim 25, wherein, when the network adapter interrupt
9 delay is increased, the upper threshold is increased and the lower threshold is increased, and
10 when the network adapter interrupt delay is decreased, the upper threshold is decreased and the
11 lower threshold is decreased.

12 27. The method of claim 25, wherein the network adapter interrupt delay may
13 be dynamically tuned within the range of from about 0 milliseconds to about 128 milliseconds.

14 28. The method of claim 25, wherein the value comprises a calculation of a
15 number of packets received per interrupt.